



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D119-646-041
Job Sheet 183798



Part No: D119-646-041

Job Qty: 1 ea

Part Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 9/26/18

Job Tracking No:

Created By: Marie Lajeunesse

Due Date: 10/26/18

Description:

Note: DWG IIN-D119-646 REV D, D3887-041 REV E SHEETS 1,2,5,7,8,10,11 IPP RevA: New issue DD verified by: EC IPP rev B 10.02.22 per PAR 09-043 EC verified by: DD IPP REV C 12.11.05 (DEOD3887-B-1)(ecn 12-675) DD verf: JLM IPP REV: D 13.03.20 per chg003 ECN13-534 DD verf: JLM IPP REV: E 17.05.19 as per dwg D3887 rev.e DD verf: JFS

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea	10/26/18	10/26/18	0.00	0.00	Start Up Skidtubes-1		MG
110	Skidtubes	1 pcs	10/26/18	10/26/18	0.00	0.25	Skidtubes-1		MG
120	HandFinish	1 pcs	10/26/18	10/26/18	0.00	0.83	HandFinish1		DR 18/10/1
121	QC	1 pcs	10/26/18	10/26/18	0.00	0.00	QC7-1		BE
122	QC	1 pcs	10/26/18	10/26/18	0.00	0.00	QC5		BE
130	Skidtubes	1 pcs	10/26/18	10/26/18	0.00	1.54	Skidtubes-1		MG
135	QC	1 pcs	10/26/18	10/26/18	0.00	0.00	QC5		BE
140	Skidtubes	1 pcs	10/26/18	10/26/18	0.00	1.47	Skidtubes-1		MG
150	QC	1 pcs	10/26/18	10/26/18	0.00	0.00	QC5		BE
160	Skidtubes	1 pcs	10/26/18	10/26/18	0.00	1.61	Skidtubes-1		MG
170	QC	1 pcs	10/26/18	10/26/18	0.00	0.00	QC5		BE
180	QC	1 pcs	10/26/18	10/26/18	0.00	0.00	QC10		BE
190	HandFinish	1 pcs	10/26/18	10/26/18	0.00	0.83	HandFinish2		DR 18/10/24
200	Powdercoat	1 pcs	10/26/18	10/26/18	0.00	0.22	Powdercoat1		BE 18-10-25
210	QC	1 pcs	10/26/18	10/26/18	0.00	0.00	QC3		DR 18-10-25
220	HandFinish	1 pcs	10/26/18	10/26/18	0.00	3.83	HandFinish4		BE 18-10-25
240	HandFinish	1 pcs	10/26/18	10/26/18	0.00	2.00	HandFinish4		BE 18-10-25
245	QC	1 pcs	10/26/18	10/26/18	0.00	0.00	QC5		BE 18-10-25
255	DC	1 pcs	10/26/18	10/26/18	0.00	0.00	DC		BE 18-10-25
260	Packaging	1 pcs	10/26/18	10/26/18	0.00	0.00	Packaging3-1		BE 18-10-25
270	QC21-FG	1 Ea	10/26/18	10/26/18	0.00	0.00	QC21		BE 18-10-25

Part Op 110 - 1- inspect Mat'L D2500-1-190 for damage 2-Cut tube to length as per dwg D3887 (154.8") 3- Ensure squareness of Descriptions: ends and scribe batch#

130 - 1- Install drill Jig DT9477 drill X-bolt spacer pilot holes using 3/16" drill first side only. 2- 2nd side, locating from first saddle holes use DT9861 A/B to drill 2nd side fwd saddle holes. 3- 2nd side locating from fwd saddle drill remaining crossbolt spacer holes using DT9477 4- Open crossbolt spacer holes to finished size as per dwg D3887 (section D-D and E-E) ***DO NOT OPEN FWD Saddles Holes*** 5- Deburr, blow out chips from inside of tube. 6- Bond web in place as per Dwg D3887 & QSI 015. A/R

140 - 1- Bend FWD end of tube using bender 1 and FOLIO 31 bend prog. D3887. ***Must use bending aid DT9544, ensure proper positioning*** 2- Cut FWD end of tube as per dwg D3887. ***Verify measurement*** 3- Buff out marks left from bending 4- Drill FWD cap holes using DT8215. Open FWD & AFT cap holes to 0.208" 5- Open FWD saddle holes to finished size as per dwg D3887 6- Drill FWD x-bolt spacer holes using DT9816 and open to finished size. (verify

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use as is ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Cross tube ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐
Date : _____ _____ _____		

measurement) 7- Drill Tow ring hole, using DT10047 locate from FWD saddle hole. (verify measurement). Open to finished size. 8- Drill 1.87" and 3.74 holes using DT10045 A&B locate from FWD saddle hole. (verify measurement) as per dwg. 9- C'sink FWD cap hole as per detail "C" 10- Drill holes for wearpads using DT8931, open to 0.297". 11- Countersink crossbolt spacer holes, and prepare tube for welding, deburr. 12- Deburr and blow out chips from inside of tube. 160 - NOTE: TACK IN 2 MOST FWD X-BOLT SPACERS AND TEST FIT FWD GROUND HANDLING FIXTURE, IF FIXTURE FITS WELL THEN PROCEED. FIXTURE DT10091. 1-Insert crossbolt spacers. Weld as per QSI 004 and Dwg D3887. Remember to back drill each hole before welding the other side. Use aluminum rod A/R 2-Grind cross bolt welds flush as per Dwg D3887. Ensure no pin hole. 3-Counterbore 5/16" x 0.750" deep as per Dwg D3887. 4- Deburr & Scribe batch # on Aft end of tube.

170 - TEST FIT USING FIXTURE DT10091.

190 - Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

200 - ***MASK AREA SHOWN ON SHEET 7, NOTE 9*** START TIME: 12:50 OVEN TEMPERATURE:

FINISH TIME: 1:20

220 - 1-Install inserts as per Dwg D3887.

240 - 1-Install inserts as per Dwg D3887. 2-Install wearpads, gaskets as per Dwg D3887. Put sikaflex in insert before installing bolts and washers A/R Sikaflex-240/-291 M138943 Sikaflex expire date: 03/19 3-assemble o'ring to plug as per dwg D3492 and apply o'ring lube A/R 55-o'ring lube batch: 5002015 4 -Inspect for foreign objects as per QSI 024 5 -Install D2855-3 Cap and seal with Sikaflex. Clean excess adhesive. A/R Sikaflex-240/-291

M138943 Sikaflex expire date: 19/03 6 -Install insert in D2855- Cap. Install cap and seal with Sikaflex. Clean excess adhesive. A/R Sikaflex-240/-291 M138943 Sikaflex expire date: 19/03 7- Wing Walk as per dwg and QSI Batch: M138943 5048120

255 - Photocopy bluefile & type labels per PPP D119-646-041 CHG005

M.U. 006114

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D2500-1-190	Ext'n -I' Beam Tube 4"	1 Ea (1 ea)	90-Start up Operation	5112963
D3885-1	Standard Web	1 Ea (1 ea)	130-Skidtubes	5083677
D2579	Crossbolt Spacer	2 Ea (2 ea)	140-Skidtubes	5051552
D2855-5	Cap	1 Ea (1 ea)	160-Skidtubes	5002015
D3681-1	Spacer	12 Ea (12 ea)	160-Skidtubes	5103210
D3903-1	Spacer	12 Ea (12 ea)	160-Skidtubes	5116459
ALS4-1032-130	Rivnut	33 Ea (33 ea)	240-HandFinish	5007279
ALS4-1032-225	Rivnut	1 Ea (1 ea)	240-HandFinish	5058138
AN3C4A	Bolt	6 Ea (6 ea)	240-HandFinish	5095223
AN3C5A	Bolt	26 Ea (26 ea)	240-HandFinish	5095214
D2855-3	Cap	1 Ea (1 ea)	240-HandFinish	5066002
D3492-5	Plug	24 Ea (24 ea)	240-HandFinish	5102651
D3672-1	Washer, Phenolic	2 Ea (2 ea)	240-HandFinish	F164008
D3847-1	Wearpad	5 Ea (5 ea)	240-HandFinish	5097465
D3847-11	Wearpad	1 Ea (1 ea)	240-HandFinish	5058269
MS24694-C52	Screw	2 Ea (2 ea)	240-HandFinish	5067269
NAS1149C0332R	Washer	32 Ea (32 ea)	240-HandFinish	5089465
NAS1611-005	O-Ring	24 Ea (24 ea)	240-HandFinish	5057657

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D2500-1-190	1	82	0
130-Skidtubes	D3885-1	1	13	0
140-Skidtubes	D2579	2	207	0
160-Skidtubes	D2855-5	1	64	0
	D3681-1	12	202	0
	D3903-1	12	10	0
240-HandFinish	ALS4-1032-130	33	12,106	0
	ALS4-1032-225	1	1,835	0
	AN3C4A	6	2,069	0
	AN3C5A	26	1,926	0
	D2855-3	1	7	0
	D3492-5	24	140	0
	D3672-1	2	968	0
	D3847-1	5	36	0
	D3847-11	1	14	0
	MS24694-C52	2	148	0
	NAS1149C0332R	32	4,538	0
	NAS1611-005	24	319	0

Part Specifications

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

Specifications could not be found.

Plex 9/26/18 3:04 PM Dart.lajeunesse.marie

DQA: _____ Date: _____

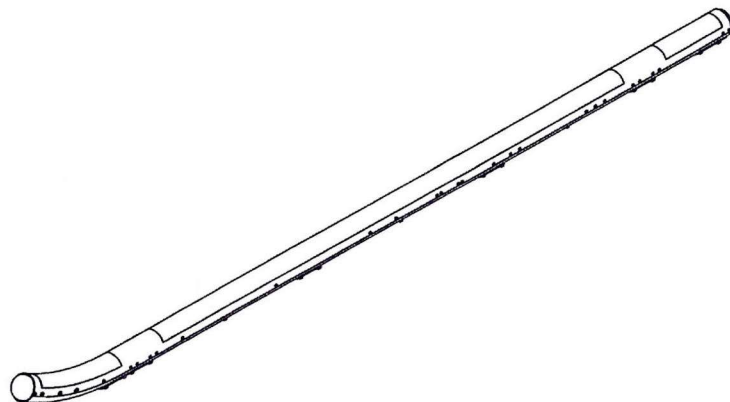


WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			Completed By
					Lead hand / Supervisor Approval Verification
					QC / QA Coordinator Approval
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : _____	



D3887-041 STANDARD SKIDTUBE ASSY WITH WEARPAD(SHOWN)
D3887-043 STANDARD SKIDTUBE ASSY WITH WEARPLATE (SIMILAR)
D3887-045 STANDARD SKIDTUBE ASSY WITH TRAINING WEARPLATE (SIMILAR)

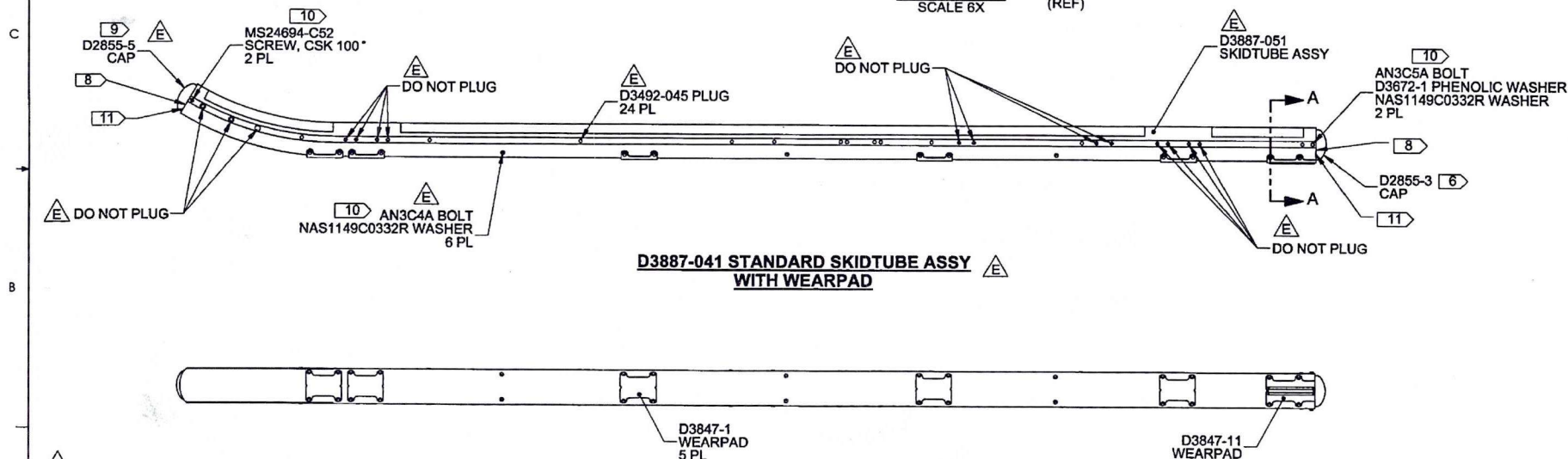
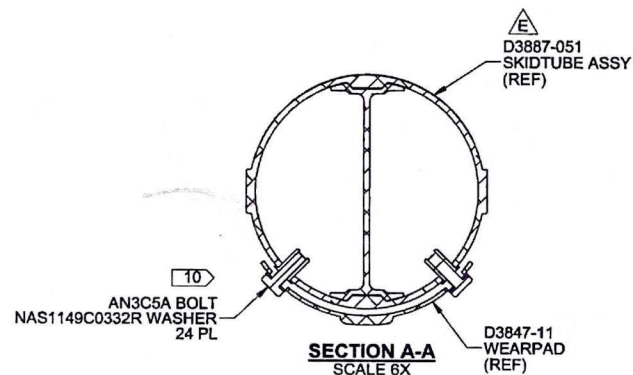
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 RETURN TO
 ENGINEERING
 UNCONTROLLED COPY
 SUBJECT TO AMENDMENT
 WITHOUT NOTICE
 WORK ORDER

NO. 183798 HW
18-09-26

E	COMPLETE REDRAW, ADDED ASSY DETAILS -3, -051 & -053, SEE PREVIOUS REV. FOR DETAIL. POWDER COAT REMOVED FROM SADDLE AREA SEE DETAIL F. REF PAR15-421. ADDED STRUCTURAL PROVISIONS TO ALLOW FOR THE INSTALLATION OF THE D119-846-313/314 SKIDTUBE PROTECTOR KIT. REF PAR17-577. CHANGE QTY OF D2855-3, ADDED D2855-5 CAP ASSEMBLIES, ADDED INSTRUCTIONS TO LOCATE INSERT HOLE FOR D2855-5 CAP. REF PAR17-583	AJS / WK	17.02.03
D	REVISED BEND TOLERANCES FOR MANUFACTURABILITY, 135.07 WAS 134.04 (ZN D5-8), ADD 5.07 (ZN C2-8), ADD 116.8 (ZN D5-8), DELETE GASKETS (BOM, SH 2)	DB	13.09.20
C	(SHT1, P/L, ZN C2-2, C3-2, C4-2) ITEM 13, QTY 2 WAS 4, ITEM 42, QTY 32 WAS 34, ITEM 44, QTY 30 WAS 32, ADD ITEM 46, MS24694-C52 WAS AN3C5A, 2 PLCS, (ZN C1-5, C1-6, B4-7) Ø0.201 CSK Ø0.385 X 100" WAS Ø0.214 THRU, ADDED DETAIL F (ZN C8-5, C8-6, B8-7), ADD ITEM 10, D2579 CROSS BOLT SPACER (ZN D4-1, A6-7)	DB	13.02.19
B	ALS4-1032-130 WAS AELS-1032-130 (ZN C4-1, C5-7, C3-7); ADD DT8931 (ZN A6-1); ADD 134.04 (ZN C4-8); D2855-3 WAS D2575 (ZN D4-1, C7-2, C2-2, C7-3, C2-3, C7-4, C2-4); AN3C5A WAS AN3C4A (ZN C6-2, C2-2, C6-3, C2-3, C6-4, C2-4); Ø0.313 WAS Ø0.328 (ZN C4-5, C4-5, C2-7 & B3-7) REVISED NOTE 4 (ZN B3-7)	RF	09.06.30
A	NEW ISSUE	RF	09.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE USA, INC.	
DRAWN	WK	EUGENE, OR	
CHECKED	RF	DRAWING NO.	REV. E
MFG. APPR.	DD	D3887	SHEET 1 OF 11
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	A119 STD SKIDTUBE ASSY	NTS
DATE	17.02.03	COPYRIGHT © 2009 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL. AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

RELEASED
 R 2017-05-08
 17-519

ITEM	QTY -041	P/N	DESCRIPTION
	X	D3887-041	STANDARD SKIDTUBE ASSY WITH WEARPAD
1	1	D2855-3	CAP ASSY
2	1	D2855-5	CAP ASSY
3	24	D3492-045	PLUG ASSY
4	2	D3672-1	PHENOLIC WASHER
5	5	D3847-1	WEARPAD
6	1	D3847-11	WEARPAD
7	1	D3887-051	SKIDTUBE ASSY
8	1	ALS4-1032-225	INSERT
9	26	AN3C5A	BOLT
10	6	AN3C4A	BOLT
11	2	MS24694-C52	SCREW, CSK 100*
12	32	NAS1149C0332R	WASHER

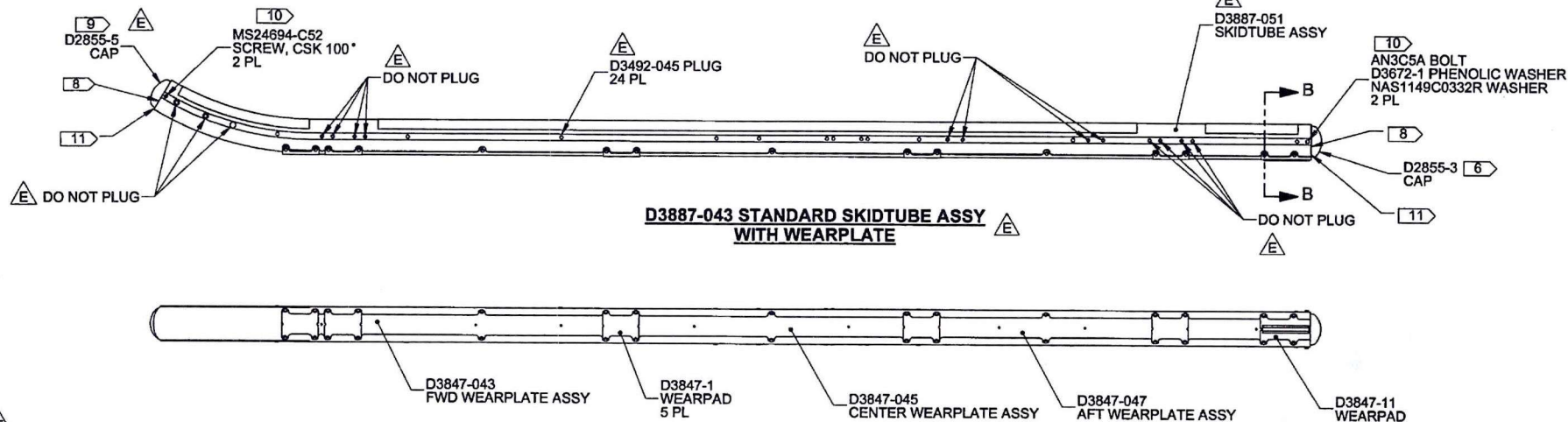
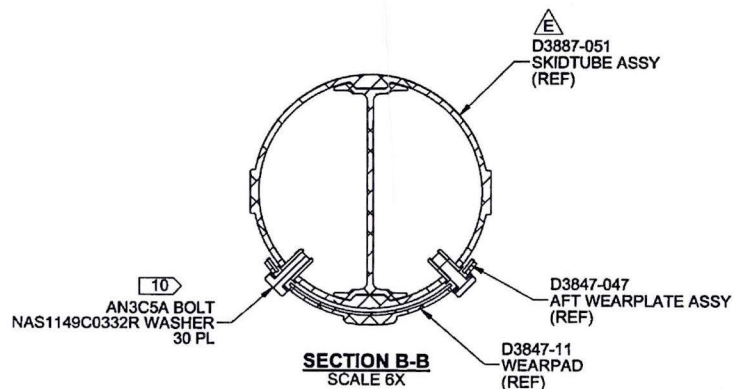


- NOTES:**
- 1) MATERIAL: N/A
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: N/A
 - 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3887-041" AND BATCH NUMBER PER QSI 044 6.4 ON THE ID OF THE TUBE, BEFORE INSTALLING THE AFT D2855-3 CAP
 - 7) WEIGHT: 32.0 lbs
 - 8) RELIEVE INNER RIDGE OF EXTRUSION, AS NEEDED, TO ALLOW FOR INSTALLATION OF D2855-3 AND D2855-5 CAP ASSY, ALODINE BARE MATERIAL
 - 9) USE D3887-051 SKIDTUBE ASSY TO LOCATE AND BACKDRILL UNDRILLED INSERT HOLE INTO D2855-5 CAP. OPEN HOLE TO Ø0.297, ALODINE BARE MATERIAL AND INSTALL ALS4-1032-225 (OR AKS7-1032-225, OR ALS7-1032-225, OR AKS4-1032-225) INSERT ON INSIDE OF CAP.
 - 10) SEAL FASTENERS WITH SIKAFLEX -241/291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT
 - 11) SEAL MATING SURFACES WITH SIKAFLEX -241/291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT

RELEASED
2017-05-08

DESIGN	RF	DART AEROSPACE USA, INC.	
DRAWN	WK	EUGENE, OR	
CHECKED	RF	DRAWING NO.	REV. E
MFG. APPR.	DD	D3887	SHEET 2 OF 11
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	A119 STD SKIDTUBE ASSY	NTS
DATE	17.02.03	COPYRIGHT © 2008 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONTRACT THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

ITEM	QTY -043	P/N	DESCRIPTION
	X	D3887-043	STANDARD SKIDTUBE ASSY WITH WEARPLATE
1	1	D2855-3	CAP ASSY
2	1	D2855-5	CAP ASSY
3	24	D3492-045	PLUG ASSY
4	2	D3672-1	PHENOLIC WASHER
5	1	D3847-043	FWD WEARPLATE ASSY
6	1	D3847-045	CENTER WEARPLATE ASSY
7	1	D3847-047	AFT WEARPLATE ASSY
8	5	D3847-1	WEARPAD
9	1	D3847-11	WEARPAD
10	1	D3887-051	SKIDTUBE ASSY
11	1	ALS4-1032-225	INSERT
12	32	AN3C5A	BOLT
13	2	MS24694-C52	SCREW, CSK 100"
14	32	NAS1149C0332R	WASHER



NOTES:

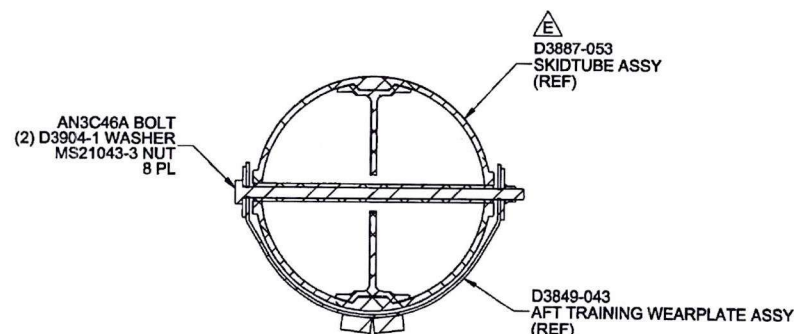
- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3887-043" AND BATCH NUMBER PER QSI 044 6.4 ON THE ID OF THE TUBE, BEFORE INSTALLING THE AFT D2855-3 CAP
- 7) WEIGHT: 37.0 lbs
- 8) RELIEVE INNER RIDGE OF EXTRUSION, AS NEEDED, TO ALLOW FOR INSTALLATION OF D2855-3 AND D2855-5 CAP ASSY, ALODINE BARE MATERIAL
- 9) USE D3887-051 SKIDTUBE ASSY TO LOCATE AND BACKDRILL UNDRILLED INSERT HOLE INTO D2855-5 CAP. OPEN HOLE TO $\varnothing 0.297$, ALODINE BARE MATERIAL AND INSTALL ALS4-1032-225 (OR AKS7-1032-225, OR ALS7-1032-225, OR AKS4-1032-225) INSERT ON INSIDE OF CAP.
- 10) SEAL FASTENERS WITH SIKAFLEX -241/291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT
- 11) SEAL MATING SURFACES WITH SIKAFLEX -241/291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT

RELEASED
2017-05-08

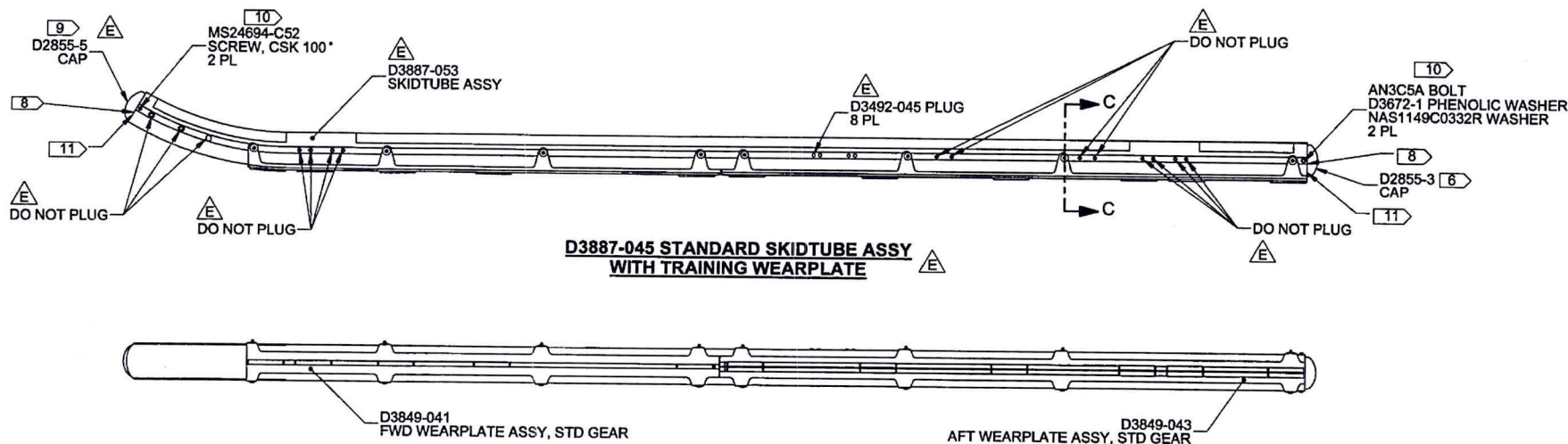
APPROVED

DESIGN	RF	DART AEROSPACE USA, INC.	
DRAWN	WK	EUGENE, OR	
CHECKED	RF	DRAWING NO.	REV. E
MFG. APPR.	DD	D3887	SHEET 3 OF 11
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	A119 STD SKIDTUBE ASSY	NTS
DATE	17.02.03	COPYRIGHT © 2009 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

ITEM	QTY -045	P/N	DESCRIPTION
	X	D3887-045	STANDARD SKIDTUBE ASSY WITH TRAINING WEARPLATE
1	1	D2855-3	CAP ASSY
2	1	D2855-5	CAP ASSY
3	8	D3492-045	PLUG
4	2	D3672-1	PHENOLIC WASHER
5	1	D3849-041	FWD WEARPLATE ASSY, STD GEAR
6	1	D3849-043	AFT WEARPLATE ASSY, STD GEAR
7	1	D3887-053	SKIDTUBE ASSY
8	16	D3904-1	WASHER
9	1	ALS4-1032-225	INSERT
10	8	AN3C46A	BOLT
11	2	AN3C5A	BOLT
12	8	MS21043-3	NUT, SELF-LOCKING
13	2	MS24694-C52	SCREW, CSK 100"
14	2	NAS1149C0332R	WASHER



SECTION C-C
SCALE 4X



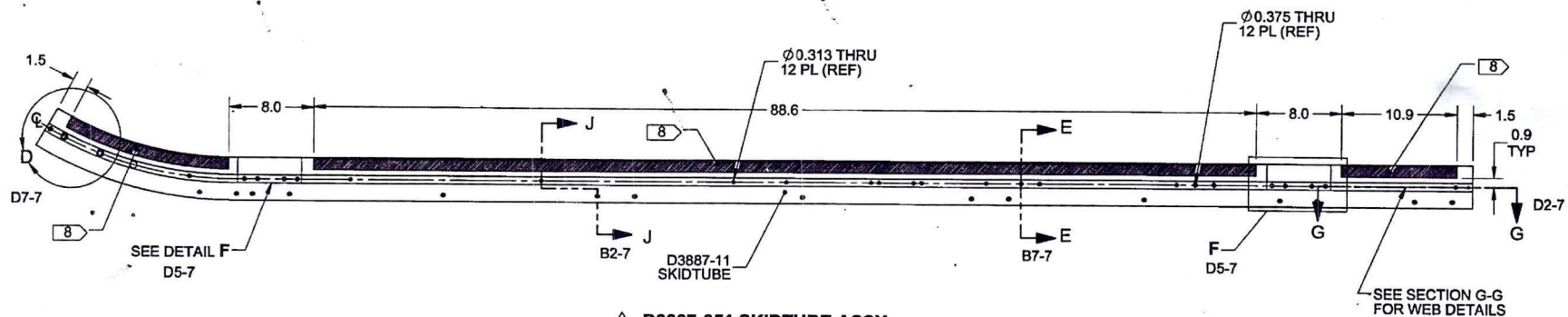
- NOTES:
- 1) MATERIAL: N/A
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: N/A
 - 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3887-045" AND BATCH NUMBER PER QSI 044 6.4 ON THE ID OF THE TUBE, BEFORE INSTALLING THE AFT D2855-3 CAP
 - 7) WEIGHT: 38.1 lbs
 - 8) RELIEVE INNER RIDGE OF EXTRUSION, AS NEEDED, TO ALLOW FOR INSTALLATION OF D2855-3 AND D2855-5 CAP ASSY, ALODINE BARE MATERIAL
 - 9) USE D3887-053 SKIDTUBE ASSY TO LOCATE AND BACKDRILL UNDRILLED INSERT HOLE INTO D2855-5 CAP. OPEN HOLE TO $\varnothing 0.297$, ALODINE BARE MATERIAL AND INSTALL ALS4-1032-225 (OR AKS7-1032-225, OR ALS7-1032-225, OR AKS4-1032-225) INSERT ON INSIDE OF CAP.
 - 10) SEAL FASTENERS WITH SIKAFLEX -241/291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT
 - 11) SEAL MATING SURFACES WITH SIKAFLEX -241/291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT

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MFG. APPR.	DD	D3887	SHEET 4 OF 11
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	A119 STD SKIDTUBE ASSY	NTS
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ITEM	QTY -051	P/N	DESCRIPTION
	X	D3887-051	SKIDTUBE ASSY
1	2	D2579	CROSS BOLT SPACER
2	12	D3881-1	CROSS BOLT SPACER
3	1	D3885-1	STANDARD WEB
4	1	D3887-11	SKIDTUBE
5	12	D3903-1	CROSS BOLT SPACER
6	30	ALS4-1032-130	INSERT



D3887-051 SKIDTUBE ASSY
(WELDING DETAIL)

NOTES:

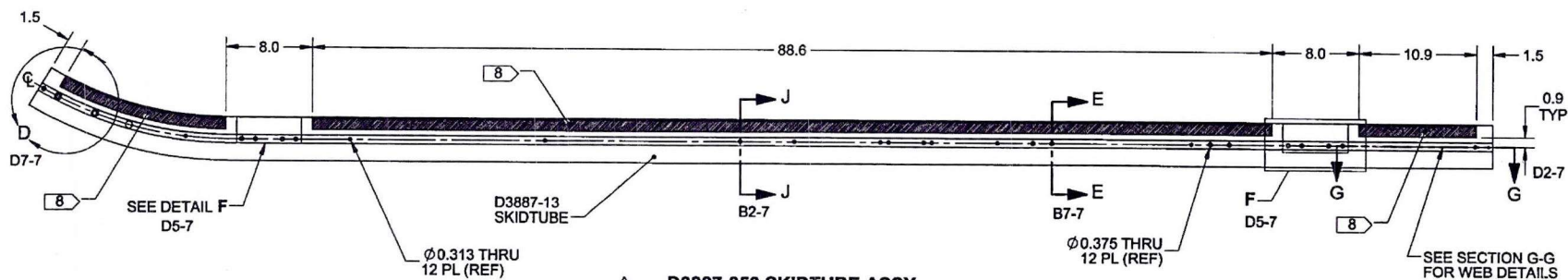
- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY AT NEXT ASSEMBLY
- 7) WEIGHT: N/A
- 8) AFTER APPLICATION OF FINISH, PAINT TOP SURFACE OF SKIDTUBE WITH MIL-W-5044 ANTI-SKID PAINT (WING WALK) AS INDICATED TO 0.50 ABOVE LOCATION RIDGE, PER QSI 005 SECTION 4.4

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ITEM	QTY -053	P/N	DESCRIPTION
	X	D3887-053	SKIDTUBE ASSY
1	2	D2579	CROSS BOLT SPACER
2	12	D3681-1	CROSS BOLT SPACER
3	1	D3885-1	STANDARD WEB
4	1	D3887-13	SKIDTUBE
5	12	D3903-1	CROSS BOLT SPACER



D3887-053 SKIDTUBE ASSY
(WELDING DETAIL)

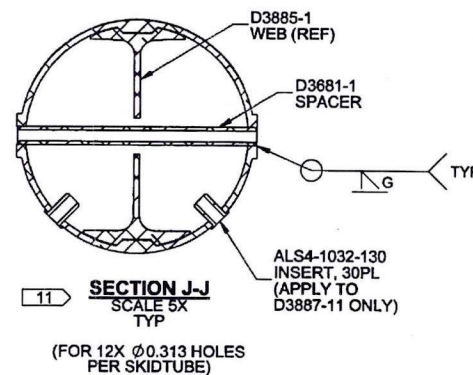
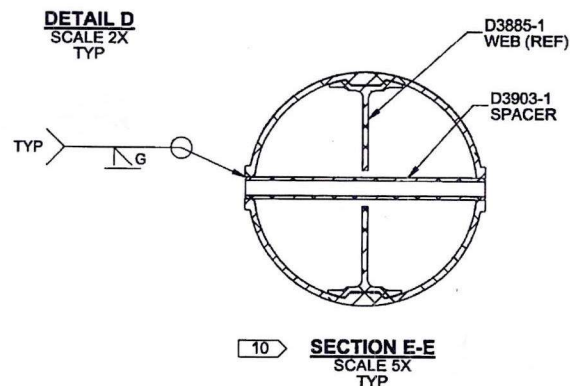
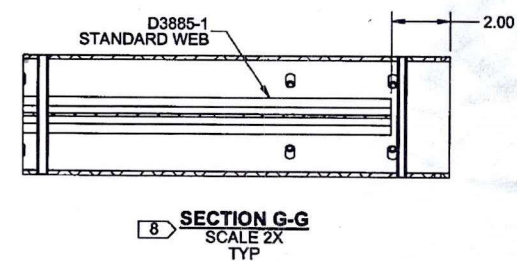
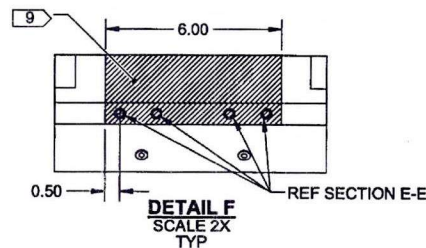
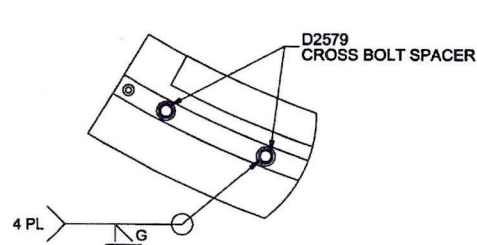
NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY AT NEXT ASSEMBLY
- 7) WEIGHT: N/A
- 8) AFTER APPLICATION OF FINISH, PAINT TOP SURFACE OF SKIDTUBE WITH MIL-W-5044 ANTI-SKID PAINT (WING WALK) AS INDICATED TO 0.50 ABOVE LOCATION RIDGE, PER QSI 005 SECTION 4.4

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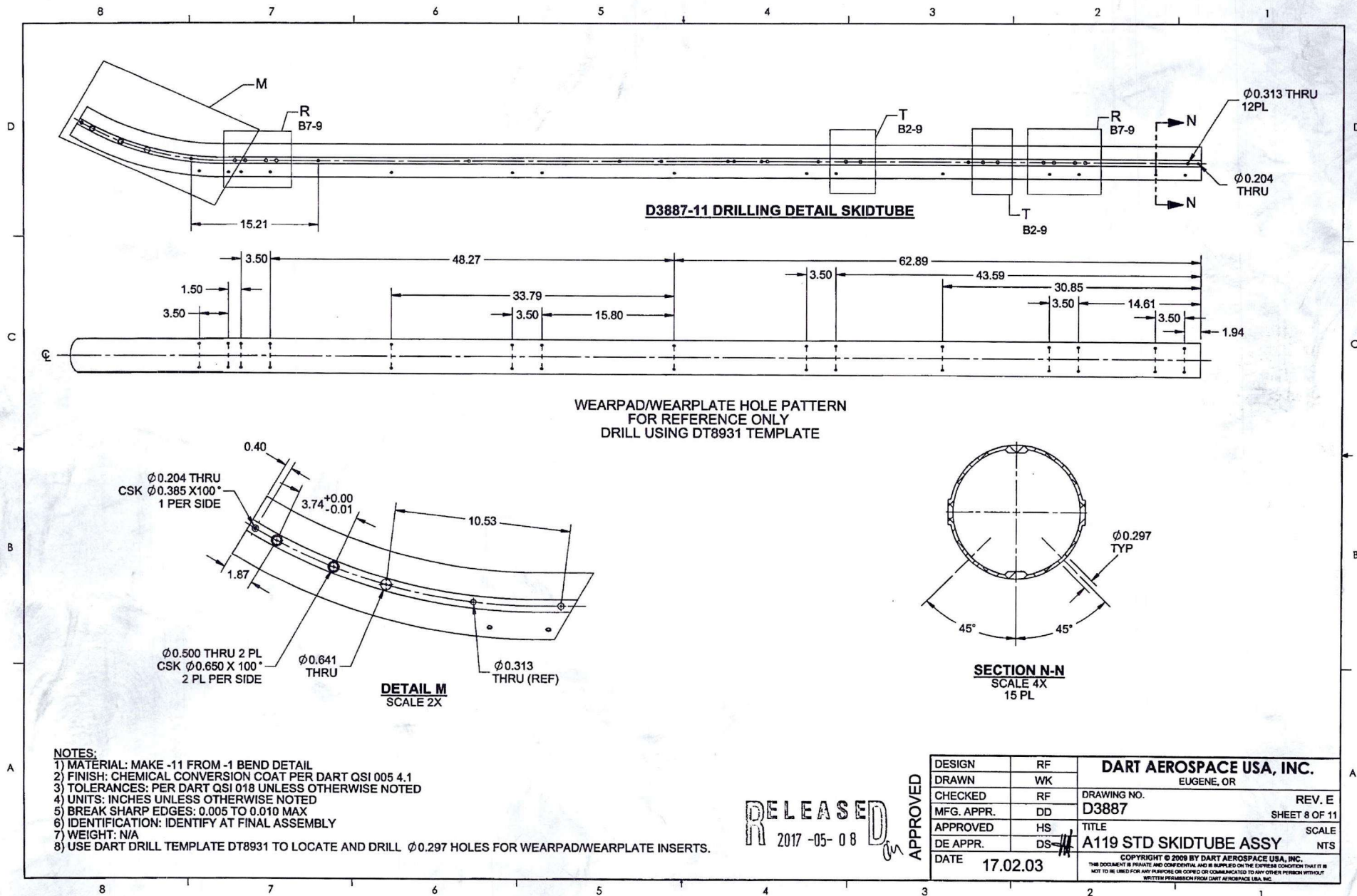
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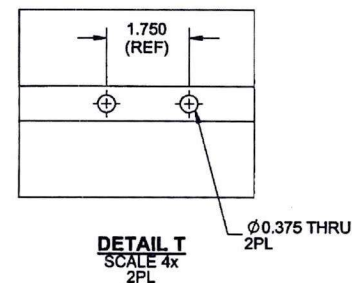
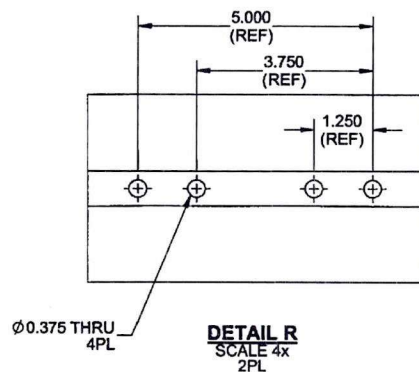
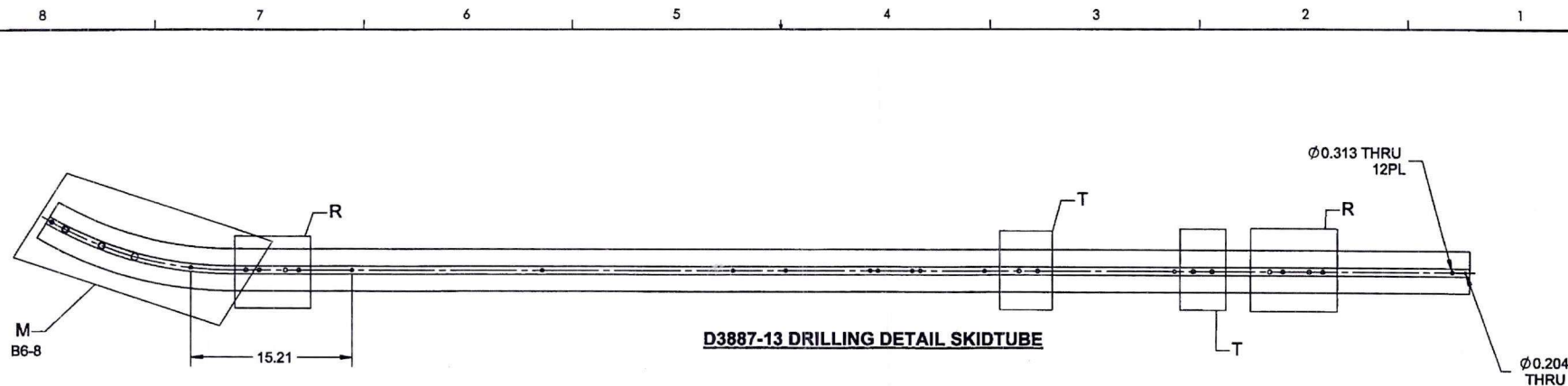
- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY AT FINAL ASSEMBLY
- 7) WEIGHT: N/A
- 8) INSERT D3885-1 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015 AFTER BENDING. ENSURE HOLES LINE-UP
- 9) MASK THIS AREA AND DO NOT POWDER COAT
- 10) AFTER DRILLING AND BENDING ASSEMBLY, PERFORM THE FOLLOWING FOR THE SECTION E-E $\phi 0.375$ HOLES ONLY:
 - i) CHAMFER HOLES $\phi 0.475 \times 45^\circ$
 - ii) INSERT D3903-1 SPACER
 - iii) WELD INTO PLACE AND GRIND FLUSH
 - iv) C-BORE TO $\phi 0.313 \times 0.75$ DEEP
 - v) DEBURR HOLES
- 11) AFTER DRILLING AND BENDING ASSEMBLY, PERFORM THE FOLLOWING FOR THE SECTION J-J $\phi 0.313$ HOLES ONLY:
 - i) CHAMFER HOLES $\phi 0.354 \times 45^\circ$ OR 0.050 DEEP $\times 45^\circ$ (BOTH SIDES)
 - ii) INSERT D3681-1 SPACER
 - iii) WELD INTO PLACE AND GRIND FLUSH
 - iv) DEBURR HOLES
- 12) WELD PER DART QSI 004

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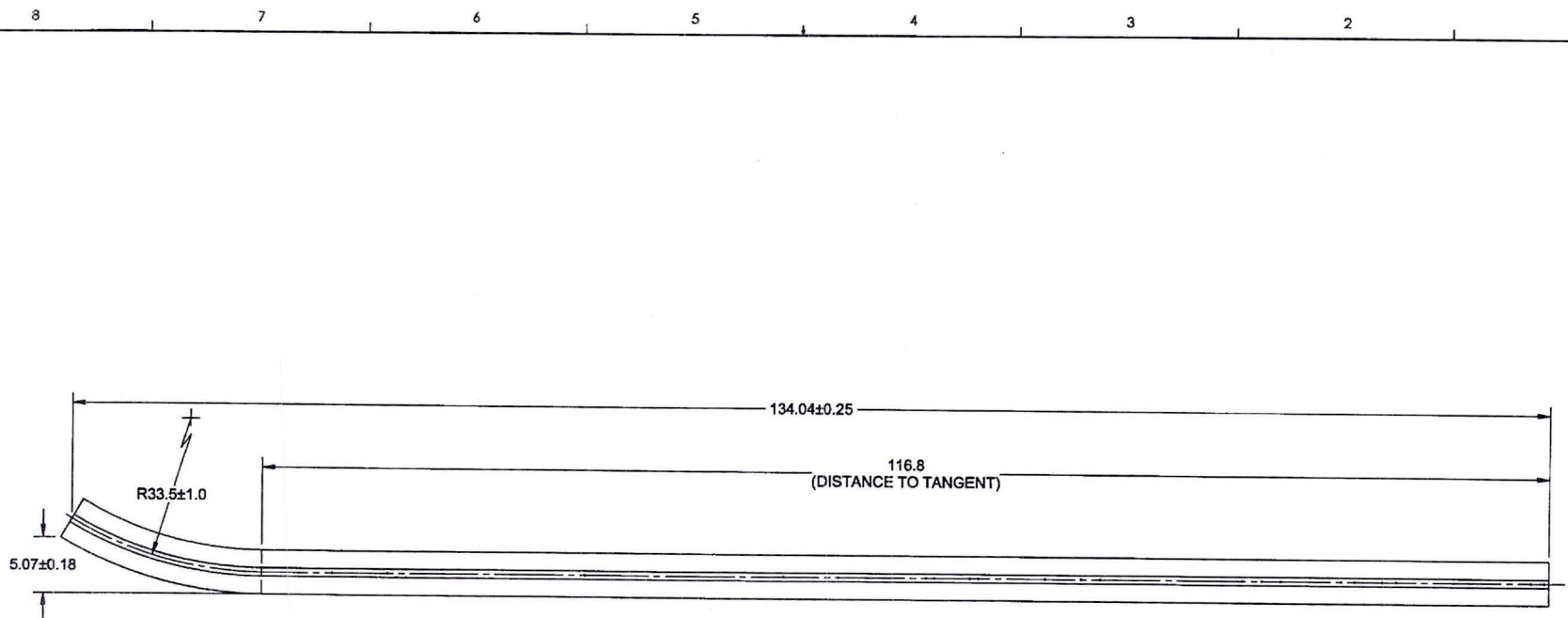
NOTES:

- 1) MATERIAL: MAKE -13 FROM -1 BEND DETAIL
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY AT FINAL ASSEMBLY
- 7) WEIGHT: N/A

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D3887-1 BEND DETAIL SKIDTUBE

NOTES:

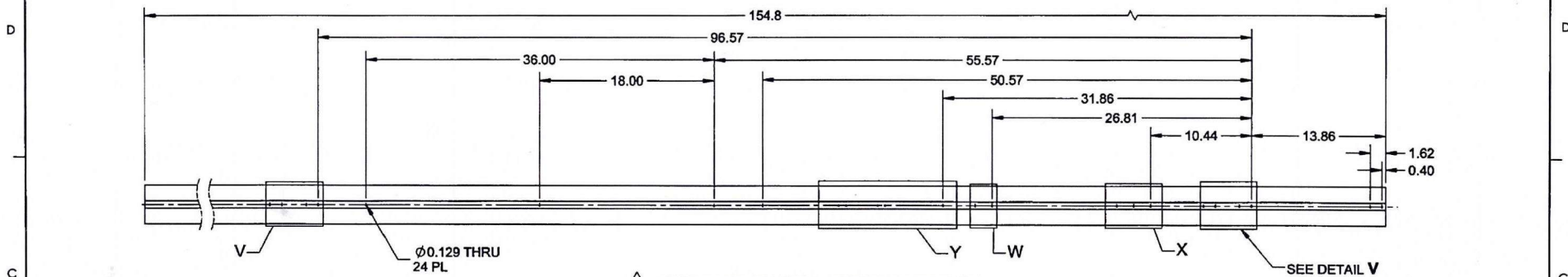
- 1) MATERIAL: MAKE -1 BEND DETAIL FROM -3 PILOT HOLE DETAIL
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY AT FINAL ASSEMBLY
- 7) WEIGHT: N/A
- 8) DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 8.5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020" DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.

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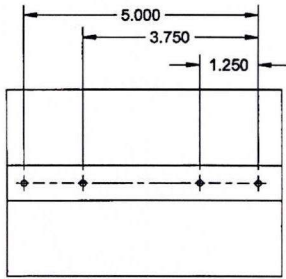
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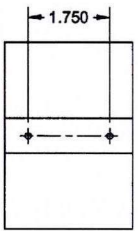
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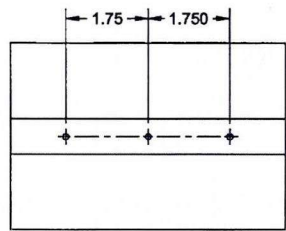
E D3887-3 PILOT HOLE DETAIL SKIDTUBE



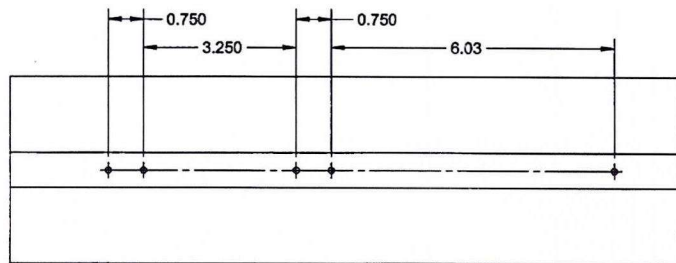
DETAIL V
SCALE 4X
2 PL



DETAIL W
SCALE 4X



DETAIL X
SCALE 4X



DETAIL Y
SCALE 4X

- NOTES:**
 1) MATERIAL: MAKE FROM D2500-1-190 EXTRUSION
 2) FINISH: N/A
 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 6) IDENTIFICATION: IDENTIFY AT FINAL ASSEMBLY
 7) WEIGHT: N/A

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8 7 6 5 4 3 2 1